

Remarks and Arguments

Claims 1-33 have been presented for examination. Claims 2-5, 7-15, 17, 19-20, 22-30 and 32 have been amended. Claims 1, 6, 16, 21, 31 and 32 have been canceled. New claims 34-36 have been added.

Claims 1-10, 14, 16-25, 29 and 31-33 have been rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,249,785 (Paepke, previously cited.) The examiner asserts that the third approach to product recommendation disclosed in the Paepke patent (discussed by applicant in the response to the previous office communication dated June 24, 2005) reads on the claims as previously presented.

Recommendations generated by the system disclosed in the Paepke patent are based on ratings given to items by each user. In particular, in all embodiments disclosed in Paepke, including the embodiment cited by the examiner, a user must rate some items in order to receive recommendations.

Recommendations are actually generated from these entered ratings from the ratings of other items “linked” to the rated items. Each “link” is computed from ratings given to the items by users of the system. In particular, links are based on “weighted coefficients” that are above a certain threshold. Each “weighted coefficient” is derived from a table of coefficients (shown in Paepke, Figure 2 and described at column 3, line 64.) These coefficients are defined across two dimensions: similarity of ratings between two items and how strongly each item is “liked” (that is, the higher the ratings, the larger the coefficient). Paepke creates a table of these links, which are shown as the un-shaded boxes in Figure 11.

The steps in the third approach to which the examiner refers are disclosed in Paepke Figure 19. The first step (131) is to generate a “permutation table” - a table of all linked items which is created from the links table. The permutation table is shown in Figure 20. Then, the user must provide ratings for some items (step 132) and these ratings are shown in table 140 (located above Figure 20). Then, in step 133, a “values table” is created by considering each item rated by the user and assigning the rating given by the user to that item to all other items linked to that item (as described in Paepke column 9, lines 30-46.) The values tables built by considering each item rated by the user in table 140 are shown as tables 141-143 in Figure 21 with the final table

shown as table 143. Finally, in step 137, the items rated by the user are eliminated from the table 143 to produce table 144 (shaded items have been eliminated) and the items are sorted by the assigned rating and the top “n” items are presented to the user as a recommendation, resulting in items A and F in table 144 being presented as recommendations (Paepke, column 9, lines 52-58.)

This operation is considerably different from the operation of the present invention. In order to more particularly point out this operation, claims 1, 16 and 31 have been cancelled and rewritten as claims 34-36 with the steps and elements more carefully described and incorporating the limitations of claims 6, 21 and 32, respectively, which latter claims have also been canceled. Claim 34 is illustrative. It recites a method having four steps. In step (a), a database is created and maintained in the memory that stores information identifying a plurality of preference items and distances between each pair of items.

As recited, each distance in the database is calculated by first calculating the difference in preference ratings obtained from a respondent in consumer preference test for that pair of preference items and combining calculated preference rating differences for all respondents in the consumer preference test. No such database is created in Paepke because Paepke uses the weighted coefficients discussed above and, other than being used to calculate the coefficients, actual ratings differences are not used further in Paepke.

The Paepke coefficients are not equivalent to the distances recited in claim 34 because, as discussed above, the coefficients are based on both the similarity of ratings and the magnitude of the ratings. As claimed, the distances are based only on the similarity of ratings. Applicants consider this methodology to be superior because by using an additional dimension of “liking” to calculate affinity (by summing the coefficients across ratings contributors), Paepke assumes that because user A likes two item a lot, then user B will also like those two items a lot. The present invention does not assume that is the case and uses only affinity - that two items are rated the same – not how strongly the two items are “liked.” Thus, neither the links table shown in Paepke Figure 11 nor the permutations table shown in Figure 20 are equivalent to the recited database because both Paepke tables are derived from the weighted coefficients.

In the inventive step (b) profile sample items are identified in the database based on selections made by a customer. Note that, although a customer can rate items, the customer is not required to rate the items, only to select some items. In Paepke, a user must rate items in order to receive recommendations because these ratings are later assigned to other items.

Next, in the inventive steps (c) and (d), the database is scanned and items are selected where the stored distance between the each selected item and one of the profile sample items is less than a predetermined, fixed value. These selected items are presented to the user as a recommendation. As discussed above, in Paepke a completely different mechanism is used. Specifically, for each item rated by the user the rating given by the user to that item is assigned to all other items linked to that item, the items rated by the user are eliminated, the remaining items are sorted by the assigned rating and the top “n” items are presented to the user as a recommendation.

These differences are reflected in differences in the recommendations generated by the Paepke system and the inventive system. As discussed above, using the books C, D, G and H used for the Paepke example method disclosed in Figure 19, the Paepke recommendation method generates recommendations for books A and F. The inventive method generates recommendations to books A, E, J and K. If the examiner would like to see the detailed calculations that produce these recommendations, applicants will provide them.

Thus, steps (a), (b) and (c) recited in claim 34 are not taught or suggested by the Paepke patent and, accordingly claim 34 patentably distinguishes over the cited reference.

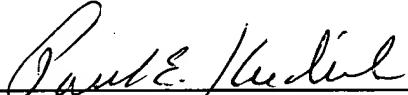
Claims 16 and 31 have been canceled and rewritten as new claims 35 and 36 in the same manner as claim 1 was canceled and rewritten as new claim 34. Therefore, they also patentably distinguish over the cited reference in the same manner as claim 34. Claims 2-5 and 7-10 have been amended to be dependent on new claim 34 and to incorporate the limitations thereof. Accordingly, these latter claims also patentably distinguish over the cited Paepke reference. Claims 17-20, 22-25 and 29 have been amended to make them dependent, either directly or indirectly, on new claim 35 and incorporate the limitations thereof. Therefore they distinguish over the cited reference in

the same manner as new claim 35. Similarly, claim 33 has been amended to be dependent on new claim 36 and incorporate the limitations thereof. Therefore it distinguishes over the cited reference in the same manner as new claim 36.

Claims 11-13, 15, 26-28 and 30 have been rejected under 35 U.S.C. §103(a) as obvious in view of Paepke. Claims 11-13 and 15 have been amended to be dependent, either directly or indirectly, on new claim 34 and incorporate the limitations thereof. Therefore, they distinguish over the cited reference in the same manner as amended claim 34. Claims 26-28 and 30 have been amended to be dependent, either directly or indirectly, on new claim 35 and incorporate the limitations thereof. Therefore they distinguish over the cited reference in the same manner as new claim 35.

In light of the forgoing amendments and remarks, this application is now believed in condition for allowance and a notice of allowance is earnestly solicited. If the examiner has any further questions regarding this amendment, he is invited to call applicants' attorney at the number listed below. The examiner is hereby authorized to charge any fees or direct any payment under 37 C.F.R. §§1.17, 1.16 to Deposit Account number 02-3038.

Respectfully submitted



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